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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/576,659	02/02/2007	Anthony McCormack	3700.P0412US	4367
23474 7590 09/23/2010 FLYNN THIEL BOUTELL & TANIS, P.C. 2026 RAMBLING ROAD KALAMAZOO, MI 49008-1631				
EXAMINER FELTON, MICHAEL J				
ART UNIT		PAPER NUMBER		
1791				
MAIL DATE		DELIVERY MODE		
09/23/2010		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/576,659

Applicant(s)

MCCORMACK ET AL.

Examiner

MICHAEL J. FELTON

Art Unit

1791

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 May 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 27-32, 34 and 38-45 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 27-32, 34 and 38-45 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 April 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 5/28/2010 has been entered.

Response to Arguments

2. Applicant's arguments filed 5/28/2010 have been fully considered but they are not persuasive.

3. The applicant argues that the performance of activated carbon having 90% CTC or greater with a metal impregnant is unexpected and indicates Table 3 provides support for the unexpected results. The examiner disagrees. The data disclosed in table 3 does not appear to indicate that anything unexpected for carbon with activities above 90 CTC. Test runs 7-10 have the same variables except for the CTC of the base carbon used and if the selectivity toward HCN is calculated (Mean HCN Reduction - Mean VP Reduction), there is a clear trend that indicates that higher CTC results in higher selectivity which would be expected. In addition, even if the result from sample 9 is thrown out as suggested by the applicant, there is no indication that at 90 CTC and

above there is anything unexpected. There appears to be no data to indicate that 90 CTC is a critical activity level at which unexpected results begin. Furthermore, the prior art of Crooks et al. discloses activities greater than 90 CTC.

4. The applicant argues that Keith et al. do not disclose activated carbons with high activity. The examiner disagrees. Keith et al. expressly discloses a minimum surface area but does not indicate a maximum surface area and also does not indicate the activity of the carbon. Although the applicant extrapolates activity data based on the examples of Keith II et al., the examples do not limit the disclosure of Keith II et al. Furthermore, the applicant appears to be arguing the reference separately, as the examiner has admitted on the record that Keith II et al. do not disclose the activity claimed.

5. The applicant calculates a carbon tetrachloride activity based on a manufacturers specification (see remarks page 12). This evidence has not been entered into the record and cannot be relied upon.

6. The applicant argues on page 7, paragraph 2 of the Remarks received 5/28/2010 that "activity greater than 90% CTC" is not a generally understood term of art indicating that the activated carbon has a "high activity". There appears to be no evidence to support the suggestion that the term "high activity" would mean "greater than 90% CTC" to one of ordinary skill in the art.

7. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., deterioration over time) are not recited in the rejected claim(s). Although the

claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

8. The applicant argues that because Crooks et al. disclose examples using 85% CTC activity carbon, that this limits the enablement of Crooks et al. The examiner disagrees. Crooks et al. explicitly state activities between 60 and 150 are desired and the prior art is enabled for all it discloses.

9. In response to applicant's argument that Frund is nonanalogous art, it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, Frund concerns the use of impregnated activated carbon to adsorb or treat gasses containing harmful chemicals, the same problem as the prior art of reference in the cigarette filter art. Regardless of the differences pointed out between the air filter/gas mask art and cigarette filter art, one of ordinary skill would be aware of the significant overlap in the problems faced and the materials and techniques used in both of these fields.

Claim Rejections - 35 USC § 103

10. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

11. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

12. Claims **1, 27-32, 34, and 38-45** are rejected under 35 U.S.C. 103(a) as being unpatentable over Keith II et al. (US 3,460,543) in view of Crooks et al. (US 20050066980) and Frund (US 5,714,126).

13. Regarding claims **1, 27-30, 32, 34, 38, 39, 42, and 43**, Keith II et al. disclose a cigarette with a cigarette filter containing 100-120 mg of an activated carbon absorbent with a particle size of around 50 mesh (0.297 mm; col. 6, 55-62) that is impregnated with 1-13% copper and 1-13% molybdenum (col. 2, 40-55; col. 4, 1-50) or other metals.

14. Keith II et al. do not disclose carbon tetrachloride activity of 90% or greater. However, Crooks et al. disclose a cigarette filter that includes activated carbon that is impregnated with metals and the activated carbon has a carbon tetrachloride activity of 60-150 (claim 16) and is between 8X16 and 30x70 mesh (claim 18). In addition, Frund discloses using activated carbon with a carbon tetrachloride activity of at least 95 (col. 2, line 6).

15. It would have been obvious to one of ordinary skill in the art at the time of invention to use activated carbon with higher carbon tetrachloride activity (as taught by Crooks et al. or Frund) with the filter disclosed by Keith II et al. because the references are analogous art and teach using impregnated activated carbon in gas filters to remove harmful substances. In addition, one of ordinary skill would understand that activated carbon with a higher carbon tetrachloride activity would be able to absorb more unwanted compounds from smoke than activated carbon with a lower carbon tetrachloride activity.

16. Regarding claims **31, 44, and 45**, Keith II et al. do not disclose the claimed copper to molybdenum ratios (1.3 to 1 or 4 to 1) but do disclose amount of copper from 1-13 % and amounts of molybdenum from 1-13 % (col. 4, 1-11).

17. It would have been obvious to one of ordinary skill in the art at the time of invention to vary the amounts of the copper and molybdenum within the ranges disclosed by Keith II et al. in order to optimize the performance of the filter because it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA).

18. Regarding claim **40**, Keith II et al. disclose that the adsorbent can also remove hydrogen sulfide (col. 3, 67-73).

19. Regarding claim **41**, Keith II et al. disclose that the filter is added to a cigarette with a wrapper and tobacco rod (see example 3).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MICHAEL J. FELTON whose telephone number is (571)272-4805. The examiner can normally be reached on Monday to Friday, 7:30 AM to 4:30 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Phillip C. Tucker can be reached on 571-272-1095. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Michael J Felton/
Examiner, Art Unit 1791

/Philip C Tucker/

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Supervisory Patent Examiner, Art Unit 1791